

BOOK REVIEWS

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FLYING JEWELS—BUTTERFLY IMAGES, by Yasutaka Murata & Daisaburo Okumoto. 2001. Publisher: Shueisha Inc, 5-14, Sarugaku-cho, 1-chome, Chiyodaku, Tokyo, 101-8050 Price: 4,410 Japanese yen [written in Japanese] ISBN4-08-532058-0.

This slim book is a collection of 76 butterfly portraits photographed in natural habitats. The photographic localities range from Japan, China, Indonesia, Europe, North America, Mexico, Central and South America. Each photograph is accompanied by minimal text describing the location and behavior of the butterflies, and occasionally, the impression of the authors. I confess that, given the number of pretty picture books in the world dedicated to butterflies, I did not anticipate being taken by *Flying Jewels—Butterfly Images*. However, it became clear that this book includes images that are truly unique, beautiful and show a patient understanding of both photography and subject.

In particular I was impressed by those images taken with a 15 mm lens. These not only provide an astonishing butterfly's view of the world, but considering the balance of light, the user hostility of a 15 mm lens, and the color balance that is involved in film photography, these images are mini-miracles. How does *Morpho amathonte*, *Teinopalpus aureus* or *Papilio glaucus* see the world when flying along a forest edge? What does the world look like to puddling males of *Agehana maraho* or *Trogonoptera trojana*? What view of the world does *Lycaena phalaes* have when feeding on a sunflower, or *Polygonia c-aureum* when feeding on a persimmon fruit that still hangs from the tree? Thanks to the images in this book, we have come much closer to knowing the answers.

Following these extraordinary images there is a section (in Japanese) stressing the worldwide need for conservation to preserve butterflies in particular, and natural habitats in general. The final text encompasses brief technical descriptions of where each photo was taken and what equipment was employed. Although *Flying Jewels – Butterfly Images* is decidedly not a scholarly work, the images in this book form a connection between the reader and the projected sense of wonder of the photographer for the subject. And that is natural, reflective art.

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SESIIDAE—CLEARWING MOTHS. HANDBOOK OF PALAEOARCTIC MACROLEPIDOPTERA. VOLUME 1. Karel Špátenka, Oleg Gorbunov, Zdeněk Laštůvka, Ivo Toševski, and Yutaka Arita, 1999. Watercolor illustrations by Bohumil Starý, Ruth Holzinger, and František Gregor. Genitalic illustrations by Oleg Gorbunov and Ivo Toševski. Clas M. Naumann, Managing Editor. Published by Gem Publishing Company, Brightwood, Brightwell cum Sotwell, Wallingford, Oxfordshire, UK OX10 0QD. ISBN 0-906802-08-3. xv + 569 pp., 487 color illustrations, 504 male and female genitalic illustrations, and 309 distribution maps; all reproduced by off-set printing. Hardbound with color jacket. Price £120, \$170.00 (US). Shipping, £5, \$7.12 (US) for first copy, £3, \$4.30 (US) for additional copies; overseas shipping, £10 for first copy, £5 for additional copies. Subscriptions to The Gem Publishing Company are accepted by check or banker's draft in sterling or US dollars. Payment may also be made directly into Giro Account No. 467-6912.

In 1991, an editorial board for The Handbook of Palaearctic Macrolepidoptera (HPM) was formed. As stated in Volume 1, HPM “is not meant to cover the entire field of the butterflies and the larger moths,” but to “provide a basis for the treatment of those groups where critical, reliable and experienced taxonomists are available and willing to devote themselves to preparing modern revisions to their special groups.” Moreover, “HPM will not compete with Microlepidoptera Palaearctica.” Given the above, and the fact that the placement of Sesiidae within the Microlepidoptera is unlikely to be challenged, it is difficult for this reviewer to ascertain how the editorial board of HPM has determined taxonomic coverage of its publications. Clearly, there appears to be a taxonomic inconsistency between what is being advertized (by HPM) and what is being published. That said, I think that volume 1 on Sesiidae is one of the more comprehensive and superbly illustrated works published on any lepidopteran taxon.

This book is divided logically into several parts in the following order: introduction; check-list of Palaearctic Sesiidae; known host-plants; keys to the subfamilies, tribes, and genera; a taxonomic treatment, including Insertae sedis; bibliography; color and black-and-white illustrations of the imago; and indices to insect names and technical terms, and plant names.

The introduction contains several concise, well written parts that include an historical review, diagnostic characters of the family, morphology, biology, natural

history, mimicry and behavior, distribution, economic importance, collecting, and rearing. Although a phylogenetic classification of the tribes within Sesiidae is presented (Fig. 10a), no summary of supportive characters is provided.

The check-list of Palaearctic Sesiidae appears complete with all species arranged to reflect some degree of relatedness. The authors have provided all synonymies. In addition, a list of host-plants is arranged alphabetically by the species-group names. All moth species are arranged, as within the check-list, within their respective taxonomic categories, with all authors and dates given. In addition, all associated host-plants are provided with their respective family names in an easily readable table.

Keys to the subfamilies, tribes, and genera emphasize features of the antennae, wing venation and degree of wing transparency, legs, and male and female genitalia. The couplets are dichotomous, easy to read, and emphasize features that are relatively easy to diagnose. The keys to the species are a pleasure to read because they emphasize body maculation. However, in a group such as the Sesiidae, the authors recommend, especially when trying to identify a "rubbed" specimen, that the genitalia be used to confirm the identity.

The taxonomic treatment for all species included provides the bulk of the text. It is divided into several sections that include a complete synonymy, diagnosis, variation, including sexual dimorphism, male and female genitalia, bionomics, habitat, and distribution maps. Because the male and female genitalia of the type-species of *Zhuosesia* Yang, 1977 could not be examined, its subfamilial and generic placement could not be made; and consequently it is placed *Insertae sedis*.

Although this volume has several coauthors, its descriptions are surprisingly uniform. However, there are some general inconsistencies to be noted. First, relative lengths given for the apophyses posteriores and antrum in females, are too general. Terms like "comparatively long" or "quite short" are not informative. On occasion, lengths relative to some other structure are given, e.g., "the antrum is twice the length of the eighth segment." It may have been better to use these ratios or some other ratio throughout the text more consistently. In addition, the position of the ductus seminalis in the female is inconsistently illustrated (either present or absent), and its position relative to the ostium bursae and the inception of the corpus bursae would have been valuable to include in the description of the female genitalia. Other inconsistencies include the description of the "thorns" on the distal part of the aedeagus in the male and the "bifid" nature of the co-

ecum penis of the aedeagus in the male; are probably due to reduction of the original illustration and the orientation of the specimen when it was illustrated.

Several errors of omission or interpretation were noted during a detailed review of the species descriptions of Tinthiini and Sesiini. For example, in *Tinthia tineiformis* (p. 38) the corpus bursae is described as having "a small rounded signum in upper part," while the associated text Fig. 276 lacks a signum. The uncus in males of *Tinthia myrmosaeformis* and *T. hoplisiformis* are described as being "hooked and bifurcate," but these features are not illustrated in text Figs. 13 and 15, respectively. The text includes a description of the female genitalia of *Tinthia mianjangalica* (p. 42), but the text figure is omitted. The description of *Paradoxecia gravis* (p. 50) indicates that the corpus bursae "has a sclerotized field," yet it appears only partially illustrated. Moreover, the corpus bursae appears to have a long crescent-shaped signum, which is not mentioned in the description. Descriptions of the female genitalia for *Sesia repanda* and *S. przewalskii* erroneously indicate that the antrum is V-shaped. In these cases, it is the anterior margin of the ostium that is V-shaped.

An extensive bibliography contains 830 references, including the most important references dealing with the Palaearctic Sesiidae. However, many faunistic, biological, and other references were prudently excluded from an already useful bibliographic listing.

There are 489 beautifully reproduced color illustrations of the imagos with several accompanied by illustrations of the head and its appendages and/or other diagnostic body features. The original illustrations were rendered in water color. The reproductions are 2× original size. Some of the illustrations of species that have heads and other body appendages illustrated separately could have been made larger as their small size restricts the reader from seeing diagnostic color patterns.

Genitalic features represented by 276 male illustrations and 228 female illustrations were rendered in black ink. One male illustration (text fig. 5) and 1 female illustration (text fig. 7) are accurately labeled to offer the user a clear understanding of the terms given in the descriptive text. Five male illustrations and 3 female illustrations appear to be added to accommodate 8 species that were discovered after the position of the bulk of the illustrations of the book plates were already "fixed." Although, the addition of a section to accommodate these additional species appears awkward, it does not detract from the work, but adds to its completeness. Easy-to-read distribution maps for all 309 species are provided.

Two indices are provided, one for insect names and technical terms and one listing the species of host-plants included. I found it very convenient that for each moth species listed in the index that the primary locator pages are in bold, the page the species is found in the species key is indicated, and pages for all plates and text figures are given. Additionally, a square symbol precedes the page number on which each distribution map for a given species is found. In the host-plant index, I found it very useful to have the family name provided for each species of plant listed.

In conclusion, I find this volume a very useful contribution to the taxonomic understanding of Palaearctic Sesiidae and of Lepidopterozoology in general. If a phylogenetic classification had been included with a presentation and discussion of supportive characters, the volume would have been a standard for future works edited by any organization. The taxonomic completeness and depth, along with the fine color and black-and-white line illustrations greatly overshadow the few errors and inconsistencies found in the text.

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MARIPOSAS ARGENTINAS: GUÍA PRÁCTICA E ILUSTRADA PARA LA IDENTIFICACIÓN DE LAS PRINCIPALES MARIPOSAS DIURNAS Y NOCTURNAS DE LA PROVINCIA DE BUENOS AIRES, by Andrés E. Varga. 2000. Published by the author. 148 pp. Paper. ISBN: 987-43-1671-3. Approximately US \$60. Price available from the author: museo@mariposasdelmundo.com; fax (54) (11) 4664-2108; mail address Calle Italia 650, San Miguel 1663, Pcia. Buenos Aires, Republica Argentina. (In Spanish.)

What do you know about the Southern Cone—the south-temperate zone comprising Chile, Argentina and Uruguay? (It is cone-shaped; look at a map.) You probably have some notions of tango and gauchos and military dictatorships, but did you know that the region embraces some of the greatest natural beauty on the planet, an incredible array of biomes, and a unique flora and fauna? Long better-known to Europeans, the Southern Cone only recently has begun to attract significant eco-tourism from the USA.

What do you know about the butterflies there? For most people, Lepidopterists or not, South America equals big, shimmering blue *Morphos* and gaudy swal-

lowtails. But things change beyond the Tropic of Capricorn, and for most of us the Southern Cone is terra incognita. The biggest problem has been the lack of a field guide or faunistic treatment for any of the countries. Here is a paradox. All three countries have strong entomological traditions going back to the middle of the nineteenth century, with indigenous journals and abundant Lepidopterological literature—but until very recently, nothing one can actually use afield. There are taxonomic catalogues of all three faunas. They are antiquated, not very accessible, and typically not illustrated. Uruguay has the least interesting fauna. The country is small, nearly flat, and mostly agriculturalized. Virtually everything found there occurs in Argentina too.

The first breakthroughs to a popular field guide occurred in Chile. Butterfly studies in Chile were dominated for half a century by two arch-rivals, the academic José (“Pepe”) Herrera G. and the accomplished amateur Luis E. (“Lucho”) Peña G. Peña was better-known outside Chile: he sold specimens of the Chilean entomofauna worldwide and collaborated in the filming of nature documentaries for the BBC and others. He prepared a small pocket guide to Chilean butterflies that was distributed as a subscription premium by a newspaper in the 1970s. This was later expanded into a real book, *Las Mariposas de Chile* (with coauthor Alfredo J. Ugarte P.), appearing in 1997 (Editorial Universitaria, Santiago) after Peña’s death. Even as this work was in preparation, many new species of lycaenids were being discovered by the Israeli Dubi Benyamini and others, and described by Kurt Johnson, Zsolt Balint, and Benyamini. These were worked into the manuscript. Thus we have an up-to-date and effectively complete reference work available for Chile.

The Argentine situation is much more daunting. The Argentine fauna is perhaps an order of magnitude richer. Unlike Chile, Argentina extends into the humid lowland tropics. Elements of the enormous fauna centered on Amazonia extend through the Argentine northeast and as far south as the subtropical forests of Tucumán. Argentina is a land of great physiographic, climatic and ecological complexity. The lowland tropical fauna articulates with the tropical Andean and altiplano fauna in the dissected yungas of Salta and Jujuy. In places one can drive from rain forest (*selva*) through Andean-alpine habitats to mesquite and columnar cactus desert in four hours. To the south lie zones of subtropical thorn scrub (*espinal*), creosote-bush desert (*monte*), subhumid to subarid bunchgrass prairie (*pampa*), cool Patagonian desert-steppe (including southern juniper woodland) and the cool to cold mon-